

Amendments to the Claims

The following listing of claims will replace all prior versions of claims in the application.

Listing of Claims

Claim 1 (Currently amended) A method utilizing a double reporter assay for improving signal-to-background ratio to identify an agent which modulates activity of a target molecule, wherein said target molecule affects cellular propagation, said method comprising the steps of:

a] contacting a cell with a candidate compound, wherein said cell comprises said target molecule, and wherein said cell further comprises a growth marker reporter gene and a ~~reporter gene selected from the group consisting of a gene coding for an enzyme and a gene coding for a fluorescent protein~~ gene coding for enzyme whose activity is detectable on the basis of conversion of a substrate;

~~b]~~ adding said substrate with a delay after said contacting step a];

~~b]~~ c] measuring cell propagation; and

~~e]~~ d] measuring activity of said reporter genes,

wherein said target molecule affects the activity of said reporter genes.

Claim 2 (Canceled)

Claim 3 (Original) The method of claim 1, wherein said target molecule is a heterologous molecule.

Claim 4 (Previously presented) The method of claim 3, wherein said heterologous molecule target is selected from the group consisting of: an oligonucleotide, a polynucleotide, a nucleic acid, a polypeptide, a protein, and a protein fragment.

Claim 5 (Canceled)

Claim 6 (Canceled)

Claim 7 (Currently amended) The method of claim [[6]]1, wherein said delay comprises the duration of at least one reproductive cycle of said cell.

Claim 8 (Original) The method of claim 7, wherein said delay comprises the duration of at least two reproductive cycles of said cell.

Claim 9 (Original) The method of claim 7, wherein said delay comprises the duration of no more than twenty-four reproductive cycles of said cell.

Claim 10 (Currently amended) The method of claim [[5]] 1, wherein said reporter gene activity measuring step c] comprises the step of disrupting said cell.

Claim 11 (Currently amended) The method of claim 10, wherein said disrupting step comprises the steps of:

- (i) adding said substrate with a delay; and
- (ii) adding a substrate selected from the group consisting of: a substrate capable of permeabilizing the membrane of said cell, and a substance capable of destroying the membrane of said cell.

Claim 12 (Previously presented) The method of claim 1, wherein said target molecule [[-]]affects cellular propagation directly.

Claim 13 (Previously presented) The method of claim 1, wherein said target molecule affects cellular propagation indirectly.

Claim 14 (Canceled)

Claim 15 (Canceled)

Claim 16 (Original) The method of claim 1, wherein said cell is a yeast cell.

Claim 17 (Original) The method of claim 16, wherein said yeast cell is a *S. cerevisiae* cell.

Claim 18 (Currently amended) A method of identifying an agent which modulates the activity of at least one target molecule, wherein said at least one target molecule affects cellular propagation, said method comprising the steps of:

- (a) contacting a first cell with a candidate compound, wherein said first cell comprises a first target molecule, and wherein said cell further comprises a growth marker reporter gene and a ~~reporter gene selected from the group consisting of a gene coding for an enzyme and a gene coding for a fluorescent protein~~ gene coding for enzyme whose activity is detectable on the basis of conversion of a substrate;
- (b) contacting a second cell with a candidate compound, wherein said second cell comprises a second target molecule, and wherein said cell further comprises a growth marker reporter gene and a ~~reporter gene selected from the group consisting of a gene coding for an enzyme and a gene coding for a fluorescent protein~~ gene coding for enzyme whose activity is detectable on the basis of conversion of a substrate;
- (c) adding said substrate with a delay after said contacting steps (a) and (b);
- ([[c]]d) measuring cell propagation of said first cell;
- ([[d]]e) measuring cell propagation of said second cell;
- ([[e]]f) measuring activity of said reporter genes in said first cell; and
- ([[f]]h) measuring activity of said reporter genes in said second cell,
- [[W]] wherein said at least one target molecule effects affects the activity of said reporter genes.

Claim 19 (Previously presented) The method of claim 1, wherein said enzyme is selected from the group consisting of b-galactosidase, b-glucuronidase, luciferase, alkaline phosphatase and acidic phosphatase.

Claim 20 (Previously presented) The method of claim 1, wherein said fluorescent protein is selected from the group consisting of GFP, BFP and aequorin.